Tips for Winterizing your Fleet

Following some basic guidelines can help trucks maintain performance and reliability during the frigid winter months ahead, according to Navistar International.

One of the simplest ways to keep trucks running during winter is to follow the recommended warm-up times provided in the engine manual. Before applying a load or increasing speed above 1,000 rpm, warm up the engine for five minutes at speeds below 1,000 rpm. This allows lubricating oil to establish a film between moving parts.

After the five-minute warming period, begin operating at reduced engine speeds and load until the vehicle reaches operating temperature - typically 167 degrees Fahrenheit (75 degrees Celsius). This can be accomplished by limiting operation to half throttle, and rpms below 1,800.

During engine warm-up, the truck's Cold Ambient Protection (CAP) system - a standard feature on International trucks - will help safeguard against engine damage. The CAP system maintains engine coolant temperature by increasing engine rpm to a programmed value when ambient air temperature drops below freezing.

When temperatures dip below 10 degrees Fahrenheit (12 degrees Celsius), a coolant and pan heater is required for cold weather starting. The former helps heat the engine coolant more quickly. The latter allows for better flow and film protection by thinning the oil, or lowering its viscosity. This provides less drag on the engine, allowing it to spin faster from the starter motor and start easier.

Take stock of batteries and oil grade

Preparing for winter driving also calls for checking truck batteries. Make sure you have the correct battery size based on the truck's load requirements, and that the battery is fully charged.

Freezing conditions drain a battery faster. Replace the battery if it's close to the end of a typical 48- to 72-month life cycle. Otherwise, make sure the battery is securely mounted and connections are tight and clean.

Proper oil grade is also essential. The Society of Automotive Engineers (SAE) defines oil viscosity (thickness) by grade. Colder temperatures require lower grade oils for correct flow during starting. Higher temperatures, in turn, call for higher grades for proper lubrication.

Check the fuel

The biggest and most commonly overlooked issue with starting and running diesel engines in cold weather is the fuel itself. Diesel fuels contain paraffin (wax), which

causes these blends to gel as they cool. This leads to roughness in the vehicle's operation and, in some cases, engine failure.

Number 1 (1D) and Number 2 (2D) are the primary fuels for most diesel applications. During warmer months, 2D, considered a summer-grade fuel, is commonly used because of its higher British Thermal Unit (BTU) content, or heat value.

As the weather cools, distributors change the mixture of the fuel to a "winter blend" of 2D and 1D. As the seasons change, it is a good idea to check the fuel grade, as well as the cetane rating on the pump. The higher the cetane number, the easier a vehicle will start in cold weather.

When pulling back into the lot at the end of the day, or stopping for the night, fill the fuel tank, drain the water from the fuel filter housing, check oil level and clean external surfaces of the engine and accessories to prevent dirt or snow build-up.

Water and contaminants that occur in the fuel have a direct impact on the service life and performance of diesel engines; they can reduce engine performance and ruin components, such as fuel pumps and injectors.

During the winter, condensation forms on the inside of a warm fuel tank as it cools. Filling the fuel tank at the end of the day reduces how much condensation will collect. This might seem to be a minor point, but it can help reduce the chances of costly downtime and expensive repairs.